
Brian Philip Anderson

Professor and Associate Dean for Graduate Academic Affairs
Wyant College of Optical Sciences
1630 E University Blvd
University of Arizona
Tucson, AZ 85721

520-626-5825
bpanders@arizona.edu

Chronology of Education and Professional Preparation

Universities attended, major field, degrees, and dates awarded

Rice University	Physics	B.A. with honors	1992
Stanford University	Applied Physics	M.S.	1995
Stanford University	Applied Physics	Ph.D.	1999

Doctoral Dissertation

Title: Bose-Einstein Condensation and Macroscopic Interference with Atomic Tunnel Arrays
Advisor: Prof. Mark A. Kasevich, Stanford University/Yale University

PhD Major Field

Applied Physics
Subfields: Bose-Einstein condensation, superfluidity, atomic physics

Postdoctoral Research

National Research Council Postdoctoral Associateship
NIST/JILA, University of Colorado, Boulder, Colorado, 1999-2001
Postdoctoral advisor: Prof. Eric Cornell, NIST and University of Colorado

Chronology of Employment

2019-present – Associate Dean for Graduate Academic Affairs
Wyant College of Optical Sciences, University of Arizona
2016-present – Professor
Wyant College of Optical Sciences, University of Arizona;
Joint appointment with Department of Physics, University of Arizona
2008-2016 - Associate Professor with Tenure
College of Optical Sciences, University of Arizona;
Joint appointment with Department of Physics, University of Arizona
2001-2008 - Assistant Professor
Optical Sciences Center/College of Optical Sciences, University of Arizona;
Joint appointment with Department of Physics, University of Arizona
1999-2001 - National Research Council Postdoctoral Research Associate,
NIST/JILA, Boulder, Colorado

Awards and Honors

- National Research Council Postdoctoral Research Associateship, 1999-2001
- Army Research Office Young Investigator Award, 2004
- Presidential Early Career Award for Scientists and Engineers, 2004
- American Physical Society Outstanding Referee Award, 2011
- Elected Fellow, American Physical Society, 2013
- University of Arizona Achievement Award: Outstanding Faculty for Graduate/Professional Students, 1st place, Graduate and Professional Students Council, 2023

Publications

- *Google Scholar citation statistics are given for each article*
- ***For the 43 articles listed below for which citation statistics are available: 9741 total citations as of 17 Jan. 2025. Average of 227 citations per article. h index = 30, i10 index = 39, i100 index = 14, i1000 index = 2.***

Books and Monographs

1. Brian P. Anderson, "Bose-Einstein Condensation and Macroscopic Interference with Atomic Tunnel Arrays," PhD Thesis, Stanford University, 1999. [*Work completed at Stanford University and Yale University.*]
2. Brian P. Anderson, Field Guide to Quantum Mechanics, SPIE, 2019.

Chapters in Books and Monographs

1. B. P. Anderson, "Dark Solitons in Bose-Einstein Condensates: The First Experiments," in Emergent Nonlinear Phenomena in Bose-Einstein Condensates: Theory and Experiment (P.G. Kevrekidis, D.J. Frantzeskakis, and R. Carretero-González, Eds., Springer-Verlag, Berlin, 2008).
2. J. Brand, L.D. Carr, and B.P. Anderson, "Experiments on Multidimensional Solitons," in Emergent Nonlinear Phenomena in Bose-Einstein Condensates: Theory and Experiment (P.G. Kevrekidis, D.J. Frantzeskakis, and R. Carretero-González, Eds., Springer-Verlag, Berlin, 2008).
3. B.P. Anderson and M.A. Kasevich, "Atomic tunnel arrays," in Proceedings of the International School of Physics 'Enrico Fermi', Course CXL, Bose-Einstein Condensation in Atomic Gases, (M. Inguscio, S. Stringari, and C.E. Wieman, Eds., IOS Press, Amsterdam, 1999), pp. 439-452.

Peer-reviewed Journal Articles

1. Brian P. Anderson and Mark A. Kasevich, "Enhanced loading of a magneto-optic trap from an atomic beam," *Phys. Rev. A* **50**, R3581-R3584 (1994). (*citations: 60*)
2. B.P. Anderson, T.L. Gustavson, and M.A. Kasevich, "Atom trapping in nondissipative optical lattices," *Phys. Rev. A* **53**, R3727-R3730 (1996). (*citations: 90*)
3. B.P. Anderson and M.A. Kasevich, "Macroscopic Quantum Interference from Atomic Tunnel Arrays," *Science* **282**, 1686-1689 (1998). (*citations: 1786*)
4. B.P. Anderson and M.A. Kasevich, "Spatial observation of Bose-Einstein condensation of ^{87}Rb in a confining potential," *Phys. Rev. A* **59**, R938-R941 (1999). (*citations: 65*)
5. M.R. Matthews, B.P. Anderson, P.C. Haljan, D.S. Hall, C.E. Wieman, and E.A. Cornell, "Vortices in a Bose-Einstein condensate," *Phys. Rev. Lett* **83**, 2498-2501 (1999). (*citations: 2552*)
6. M.R. Matthews, B.P. Anderson, P.C. Haljan, D.S. Hall, M.J. Holland, J.E. Williams, C.E. Wieman, and E. A. Cornell, "Watching a superfluid untwist itself: Recurrence of Rabi oscillations in a Bose-Einstein condensate," *Phys. Rev. Lett.* **83**, 3358-3361 (1999). (*citations: 311*)
7. B.P. Anderson, P.C. Haljan, C.E. Wieman, and E.A. Cornell, "Vortex Precession in Bose-Einstein Condensates: Observations with Filled and Empty Cores," *Phys. Rev. Lett.* **85**, 2857-2860 (2000). (*citations: 382*)

8. B.P. Anderson and M.A. Kasevich, "Loading a vapor cell magneto-optic trap using light-induced atom desorption," *Phys. Rev. A* **63**, 023404 (2001). (*citations: 163*)
9. P.C. Haljan, B.P. Anderson, I. Coddington, and E.A. Cornell, "Use of Surface-Wave Spectroscopy to Characterize Tilt Modes of a Vortex in a Bose-Einstein Condensate," *Phys. Rev. Lett.* **86**, 2922 (2001). (*citations: 92*)
10. B.P. Anderson, P.C. Haljan, C.A. Regal, D.L. Feder, L.A. Collins, C.W. Clark, and E.A. Cornell, "Watching dark solitons decay into vortex rings in a Bose-Einstein condensate," *Phys. Rev. Lett.* **86**, 2926 (2001). (*citations: 971*)
11. C.P. Search, H. Pu, W. Zhang, B.P. Anderson, and P. Meystre, "Manipulating the critical temperature for the superfluid phase transition in trapped atomic Fermi gases," *Phys. Rev. A* **65**, 063616 (2002). (*citations: 4*)
12. B.P. Anderson, K. Dholakia, and E.M. Wright, "Atomic-phase interference devices based on ring-shaped Bose-Einstein condensates: Two-ring case," *Phys. Rev. A* **67**, 033601 (2003). (*citations: 74*)
13. David R. Scherer, Chad N. Weiler, Tyler W. Neely, and Brian P. Anderson, "Vortex Formation by Merging of Multiple Trapped Bose-Einstein Condensates," *Phys. Rev. Lett.* **98**, 110402 (2007). (*citations: 273*)
14. C.N. Weiler, T.W. Neely, D.R. Scherer, A.S. Bradley, M.J. Davis, and B.P. Anderson, "Spontaneous Vortices in the Formation of Bose-Einstein Condensates," *Nature* **455**, 948 (2008). (*citations: 677*)
15. R. Carretero-González, B.P. Anderson, P.G. Kevrekidis, D.J. Frantzeskakis, and C.N. Weiler, "Dynamics of Vortex Formation in Merging Bose-Einstein Condensate Fragments," *Phys. Rev. A* **77**, 033625 (2008). (*citations: 93*)
16. K.J.H. Law, P.G. Kevrekidis, B.P. Anderson, R. Carretero-Gonzalez, and D.J. Frantzeskakis, "Structure and stability of two-dimensional Bose-Einstein condensates under both harmonic and lattice confinement," *J. Phys. B* **41**, 195303 (2008). (*citations: 12*)
17. M.C. Davis, R. Carretero-Gonzalez, Z. Shi, K.J.H. Law, P.G. Kevrekidis, and B.P. Anderson, "Manipulation of vortices by localized impurities in Bose-Einstein condensates," *Phys. Rev. A* **80**, 023604 (2009). (*citations: 36*)
18. T.W. Neely, E.C. Samson, A.S. Bradley, M.J. Davis, and B.P. Anderson, "Observation of vortex dipoles in an oblate Bose-Einstein condensate," *Phys. Rev. Lett.* **104**, 160401 (2010). (*citations: 493*)
19. B.P. Anderson, "Resource Article: Experiments with Vortices in Superfluid Atomic Gases," *J. Low Temp. Phys.* **161**, 574 (2010). (*citations: 76*)
20. S.J. Rooney, P.B. Blakie, B.P. Anderson, A.S. Bradley, "Suppression of Kelvin-induced decay of quantized vortices in oblate Bose-Einstein condensates," *Phys. Rev. A* **84**, 023637 (2011). (*citations: 86*)
21. Ashton S. Bradley, Brian P. Anderson, "Energy spectra of vortex distributions in two-dimensional quantum turbulence," *Phys. Rev. X* **2**, 041001 (2012). (*citations: 179*)

22. M.T. Reeves, B.P. Anderson, A.S. Bradley, “Classical and quantum regimes of two-dimensional turbulence in trapped Bose-Einstein condensates,” *Phys. Rev. A* **86**, 053621 (2012). (*citations: 90*)
23. M.T. Reeves, T.P. Billam, B.P. Anderson, A.S. Bradley, “Inverse Energy Cascade in Forced 2D Quantum Turbulence,” *Phys. Rev. Lett.* **110**, 104501 (2013). (*citations: 156*)
24. P. Kuopanportti, B.P. Anderson, M. Mottonen, “Vortex pump for a Bose-Einstein condensate utilizing a time-averaged orbiting potential trap,” *Phys. Rev. A* **87**, 033623 (2013). (*citations: 13*)
25. T. W. Neely, A. S. Bradley, E. C. Samson, S. J. Rooney, E. M. Wright, K. J. H. Law, R. Carretero-González, P. G. Kevrekidis, M. J. Davis, B. P. Anderson, “Characteristics of Two-Dimensional Quantum Turbulence in a Compressible Superfluid,” *Phys. Rev. Lett.* **111**, 235301 (2013). (*citations: 230*)
26. S. J. Rooney, T. W. Neely, B. P. Anderson, A. S. Bradley, “Persistent current formation in a high-temperature Bose-Einstein condensate: an experimental test for c-field theory,” *Phys. Rev. A* **88**, 063620 (2013). (*citations: 44*)
27. K.E. Wilson, E.C. Samson, Z.L. Newman, T.W. Neely, B.P. Anderson, “Experimental methods for generating two-dimensional quantum turbulence in Bose-Einstein condensates,” *Annual Review of Cold Atoms and Molecules*, vol. 1, pp. 261-298, edited by K.W. Madison, Y.Q. Wang, A.M. Rey, K. Bongs (World Scientific, Singapore, 2013). (*citations: 28*)
28. T. P. Billam, M. T. Reeves, B. P. Anderson, A. S. Bradley, “Onsager-Kraichnan condensation in decaying two-dimensional quantum turbulence,” *Phys. Rev. Lett.* **112**, 145301 (2014). (*citations: 131*)
29. M. T. Reeves, T. P. Billam, B. P. Anderson, A. S. Bradley, “Signatures of Coherent Vortex Structures in a Disordered 2D Quantum Fluid,” *Phys. Rev. A* **89**, 053631 (2014). (*citations: 45*)
30. K.J.H. Law, T.W. Neely, P.G. Kevrekidis, B.P. Anderson, A.S. Bradley, R. Carretero-Gonzalez, “Dynamic and Energetic Stabilization of Persistent Currents in Bose-Einstein Condensates,” *Phys. Rev. A* **89**, 053606 (2014). (*citations: 18*)
31. K. E. Wilson, Z. L. Newman, J. D. Lowney, B. P. Anderson, “*In situ* imaging of vortices in Bose-Einstein condensates,” *Phys. Rev. A* **91**, 023621 (2015). (*citations: 78*)
32. M. T. Reeves, T. P. Billam, B. P. Anderson, A. S. Bradley, “Identifying a superfluid Reynolds number via dynamical similarity,” *Phys. Rev. Lett.* **114**, 155302 (2015). (*citations: 94*)
33. E. C. Samson, K. E. Wilson, Z. L. Newman, B. P. Anderson, “Deterministic creation, pinning, and manipulation of quantized vortices in a Bose-Einstein condensate,” *Phys. Rev. A* **93**, 023603 (2016). (*citations: 59*)
34. B. Gertjerenken, P.G. Kevrekidis, R. Carretero-Gonzalez, B.P. Anderson, “Generating and Manipulating Quantized Vortices On-Demand in a Bose-Einstein Condensate: a Numerical Study,” *Phys. Rev. A* **93**, 023604 (2016). (*citations: 24*)
35. D. Vocke, K. Wilson, F. Marino, I. Carusotto, E. M. Wright, T. Roger, B. P. Anderson, P. Öhberg, and D. Faccio, “Role of geometry in the superfluid flow of nonlocal photon fluids,” *Phys. Rev. A* **94**, 013849 (2016). (*citations: 63*)

36. M. M. Cawte, X. Yu, B. P. Anderson, and A. S. Bradley, “Snell’s Law for a vortex dipole in a Bose-Einstein condensate,” *SciPost Phys.* **6**, 032 (2019). (*citations: 11*)
37. P. G. Kevrekidis, W. Wang, G. Theocharis, D. J. Frantzeskakis, R. Carretero-González, and B. P. Anderson, “Dynamics of interacting dark soliton stripes,” *Phys. Rev. A* **100**, 033607 (2019). (*citations: 10*)
38. L. Richardson, A. Hines, A. Schaffer, B. P. Anderson, F. Guzman, “Quantum hybrid optomechanical inertial sensing,” *Applied Optics* **59**, G160 (2020). (*citations: 17*)
39. K. E. Wilson, E. C. Samson, Z. L. Newman, B. P. Anderson, “Generation of high winding-number superfluid circulation in Bose-Einstein condensates,” *Phys. Rev. A* **106**, 033319 (2022). (*citations: 8*)
40. A. S. Bradley, J. Clarke, T. W. Neely, B. P. Anderson, “Scaling dynamics of the ultra-cold Bose gas,” *Phys. Rev. A* **106**, 053316 (2022). (*citations: 2*)

Review and Overview Articles

1. Elizabeth A. Donley, Brian P. Anderson, and Carl E. Wieman, “New Twists in Bose-Einstein Condensation,” *Optics and Photonics News*, Oct. 2001.
2. B. P. Anderson and P. Meystre, "Nonlinear Atom Optics," *Optics and Photonics News*, June 2002.
3. B. P. Anderson and P. Meystre, "Nonlinear atom optics," *Contemporary Physics* **44**, 473 (2003). (*citations: 26*)
4. Angela C. White, Brian P. Anderson, Vanderlei S. Bagnato. “Vortices and turbulence in trapped atomic condensates,” accepted for publication in *Proc. of the Nat. Acad. Sci.* (2013). (*citations: 116*)
5. Brian P. Anderson, “Fluid Dynamics: Turbulence in a Quantum Gas,” *Nature* **539**, 36 (2016). (*citations: 3*)

Patents

1. Mark A. Kasevich and Brian P. Anderson, "Gravity measurement using Bose-Einstein condensed vapors and atom interferometry," United States Patent number 6314809 (2001).

Invited Scholarly Presentations

Colloquia

- 2001 - University of Arizona, Tucson (Physics Department colloquium)
- 2002 - University of Utah, Salt Lake City (Physics Department colloquium)
- 2007 - Amherst College, Amherst, Massachusetts (Physics Department colloquium)
- 2007 - University of Queensland, Brisbane, Australia (Physics Department colloquium)
- 2007 - University of Arizona, Tucson (College of Optical Sciences colloquium)
- 2009 - Washington State University, Pullman, Washington (Physics Department colloquium)
- 2010 - University of Queensland, Brisbane, Australia (Physics Department colloquium)
- 2013 - Pomona College, Claremont, CA (Physics Department colloquium)
- 2013 - Colorado School of Mines, Golden, CO (Physics Department colloquium)
- 2013 - University of Arizona, Tucson, AZ (Physics Department colloquium)
- 2015 - Ohio University, Athens, OH (Physics Department colloquium)
- 2016 - Brigham Young University, UT (Physics Department colloquium)
- 2018 - University of Oklahoma, Norman, OK (Physics Department colloquium)

Seminars

- 2001 - Stanford University, Stanford, California (Condensed matter physics seminar)
- 2002 - University of New Mexico, Albuquerque (Center for Advanced Studies seminar)
- 2006 - University of Illinois at Urbana-Champaign (Condensed matter physics seminar)
- 2006 - University of Arizona (Low energy physics seminar)
- 2007 - NIST, Gaithersburg, Maryland (Quantum Information/BEC seminar)
- 2007 - University of Massachusetts, Amherst (Department of Mathematics seminar)
- 2007 - Los Alamos National Laboratory, New Mexico (Quantum Lunch seminar)
- 2009 - University of New Mexico, Albuquerque (Center for Advanced Studies seminar)
- 2010 - Stanford University, Stanford, California (AMO seminar)
- 2010 - University of California at Berkeley, Berkeley, California (AMO seminar)
- 2010 - Harvard Univ./MIT, Center for Ultracold Atoms, Cambridge, Mass. (CUA seminar)
- 2012 - University of Arizona, Tucson, AZ (Applied Mathematics seminar)
- 2012 - Aalto University, Helsinki, Finland (Applied Physics seminar)
- 2012 - Los Alamos National Laboratory, New Mexico (Quantum Lunch seminar)
- 2018 - University of Oklahoma, Norman, OK (Condensed matter seminar)

Conferences and Workshops

- 1998 - Enrico Fermi Summer School, Varenna, Italy (July)
- 1999 - APS Division of Atomic, Molecular, and Optical Physics, Atlanta, Georgia (March)
- 1999 - Workshop on Macroscopic Quantum Coherence Phenomena, Interdisciplinary Laboratory of the International School for Advanced Studies, Trieste, Italy (July)
- 1999 - Workshop on Quantum Optics, Jackson, Wyoming (July)
- 2000 - Multi-Component and Spinor Bose-Einstein Condensates of Trapped Dilute Vapors, University of Rochester, Rochester, New York (6-8 Jan.)
- 2000 - Symposium on Laser Cooling, Shonan Village Center, Japan (4-5 February)
- 2000 - Quantum Fluids and Solids 2000, Minneapolis, Minnesota (6-11 June)
- 2000 - Winter School on Advanced Bose-Einstein Condensation, National Center for Theoretical Science, Hsinchu, Taiwan (4 lectures, 19-21 December)
- 2001 - International Conference on Laser Spectroscopy, Snowbird, Utah (10-15 June)
- 2001 - Fundamental Issues in Quantum Gases, Aspen Cent. Phys., Aspen, Colo. (17 June – 8 July)
- 2001 - New Laser Scientist Conference, Long Beach, California, (13 October)
- 2006 - US-Japan Joint Seminar on Coherent Quantum Systems, Breckenridge, Colo. (23-25 Aug.)
- 2006 - Bi-national Consortium of Optics Winter School, Tucson, Arizona (17-20 November)
- 2007 - International Workshop on Quantum Noise 2007, Caloundra, Australia (14-18 May)
- 2008 - Nonlinear Quantum Gases 2008, Toledo, Spain (April 3)
- 2008 - OSA KOALA conference, Brisbane, Australia (November 20)
- 2008 - Australian Centre for Quantum Atom Optics Conference, Lorne, Australia (November 27)
- 2008 - Army Research Office program workshop, Las Vegas, Nevada (December 16)
- 2010 - Superfluids Under Rotation 2010, Lammi, Finland (April 14)
- 2010 - Nonlinear Waves 2010, Beijing, China (2 invited talks, June 28 & 29)
- 2011 - Nonlinear Waves, Athens, Georgia (April 4)
- 2011 - IQEC/CLEO Pacific Rim, Sydney, Australia (September 1)
- 2012 - Relaxation, Turbulence, and Non-Equilibrium Dynamics of Matter Fields, Heidelberg, Germany (June 22)
- 2012 - Quantum Fluids and Solids, Lancaster, UK (August 16)
- 2013 - Finite Temperature Non-Equilibrium Superfluid Systems: Workshop on Quantum Turbulence in Atomic Gases, Queenstown, New Zealand (February 16)
- 2013 - Finite Temperature Non-Equilibrium Superfluid Systems, Queenstown, New Zealand (February 19)
- 2013 - ITAMP workshop: Finite-temperature and low-energy effects in cold atomic and molecular few- and many-body systems, Boston, MA (March 25)
- 2013 - Introduction to Quantum Systems and Devices, Helsinki, Finland. A series of 4 lectures on Bose-Einstein condensation in atomic gases. (June 11-14)

- 2013 - Bose-Einstein Condensation 2013: Frontiers in Quantum Gases, Sant Feliu de Guixols, Spain (September 9)
- 2014 - APS Division of Atomic, Molecular, and Optical Physics annual meeting, Madison, Wisconsin (June 4)
- 2015 - Raytheon MEOST workshop, Tucson, Arizona (June 10)
- 2015 - Heraeus workshop: Cold Atoms meet Quantum Field Theory, Bad Honnef, Germany (July 6).
- 2016 - CMO-BIRS workshop: Coherent Structures in PDEs and Their Applications, Oaxaca, Mexico (June 20)
- 2018 - Finite Temperature Non-Equilibrium Superfluid Systems, Wanaka, New Zealand (February 2018)
- 2019 - Conference on Optics, Atoms and Laser Applications (KOALA), Dunedin, New Zealand (December 2019)

US Federal grants awarded

\$2.68M+ in federal funding for Bose-Einstein condensation research at UA:

- 2003-2008 - Army Research Office Young Investigator Award / Presidential Early Career Award for Scientists and Engineers. *Free-Space Integrated Atom Optics: New Techniques and Applications with Configurable Optical Potentials* (single-investigator award). \$535,000 total award.
- 2003-2006 - Joint Services Optics Program. *Research in the Optical Sciences* (multiple-investigator award). \$51,000 portion of award.
- 2004-2009 - National Science Foundation. *Atom Optics with Quasi-Two-Dimensional Bose-Einstein Condensates* (single-investigator award). \$390,000 total award.
- 2006-2010 - Joint Services Optics Program. *Research in the Optical Sciences* (multiple-investigator award). \$95,000 portion of award.
- 2009-2012 - National Science Foundation. *Turbulence and Vortices in Two-Dimensional Bose Gases* (single-investigator award). \$489,208 total award.
- 2010-2011 - Joint Services Optics Program. *Research in the Optical Sciences* (multiple-investigator award). \$34,088 portion of award.
- 2012-2015 - National Science Foundation. *Two-Dimensional Quantum Turbulence in Bose-Einstein Condensates* (single-investigator award). \$540,000 total award.
- 2016-2019 - National Science Foundation. *Quantum Vortex Laboratory: Generation, Manipulation, Imaging, and Dynamics of Vortices in Bose-Einstein Condensates* (single-investigator award). \$548,696 total award.
- 2019-2022 - National Science Foundation. *Generation of High-Power, High-Order Orbital Angular Momentum Laser Beams and Application in Atom Trapping* (co-investigator award, with M. Fallahi as primary investigator). \$484,900 award (not included in total above).

Student Advising and Teaching

PhD Students Graduated (10)

David Scherer (Optical Sciences), PhD 2007
Chad Weiler (Optical Sciences). PhD 2008
Tyler Neely (Optical Sciences), PhD 2010
Edward Carlo Samson (Optical Sciences), PhD 2012
Kali Wilson (Optical Sciences), PhD 2015
Joe Lowney (Optical Sciences), PhD 2016
Zachary Newman (Optical Sciences), PhD 2016
Jessica Myers (Optical Sciences), PhD 2017
Samuel Nerenberg (Optical Sciences), PhD 2020
Andrew Schaffer (Optical Sciences), PhD 2021

MS Students Graduated (3)

Julia Werra (Optical Sciences), MS 2011
Logan Richardson (Optical Sciences), MS 2013
Daniel Foshee (Optical Sciences), MS 2023

Graduate courses

- OPTI 511L, Solid state devices and lasers laboratory course (1 credit); Anderson
 - Fall, 2002 – 2005
- OPTI 511R, Optical Physics and Lasers (3 credits); Anderson
 - Spring, 2003 – 2006, 2008
- OPTI 570/PHYS 570A/OPTI 543, Quantum Mechanics (3 credits); Anderson
 - Fall, 2008 – 2024
- OPTI 549, Atom Optics (2 credits); Anderson
 - Spring, 2009, 2010, 2012, 2014, 2017, 2019, 2024, 2025
- OPTI 571L, Optical Physics Computational Laboratory (1 credit); Wright/Anderson
 - Fall, 2014 – 2018

Professional Service

University of Arizona Service

- UA Non-ionizing Radiation Safety Committee (laser safety committee), 2001-2019
- Chair, UA Non-ionizing Radiation Safety Committee (laser safety committee), 2003-2019
- UA Faculty Review Steering Committee, 2009/2010

Extramural Service

- Reviewer and/or panelist for US and international federally funded research proposals
- Referee for peer-reviewed journal manuscripts (Nature, Science, Physical Review Letters, Physical Review A, Journal of Physics B)
- DAMOP 2004 Annual Meeting local committee member (over 700 attendees in atomic, molecular, and optical physics). Meeting held in Tucson, May 2004
- CLEO/IQEC Pacific Rim, Quantum Science in Atoms, Molecules, and Solids subcommittee member, 2011
- Designated Opponent for the PhD defense of Pekko Kuopanportti, Dept. of Applied Physics, Aalto University, Helsinki, Finland. 19 October, 2012
- 2012/2013 - 2013 DAMOP Thesis Prize Committee, member
- 2013/2014 - 2014 DAMOP Thesis Prize Committee, chair
- 2013/2104 - FiO/LS 2014 session organizer and *de facto* LS session planner
- 2015/2016 - DAMOP fellowship committee, member
- 2016/2017 - DAMOP fellowship committee, member